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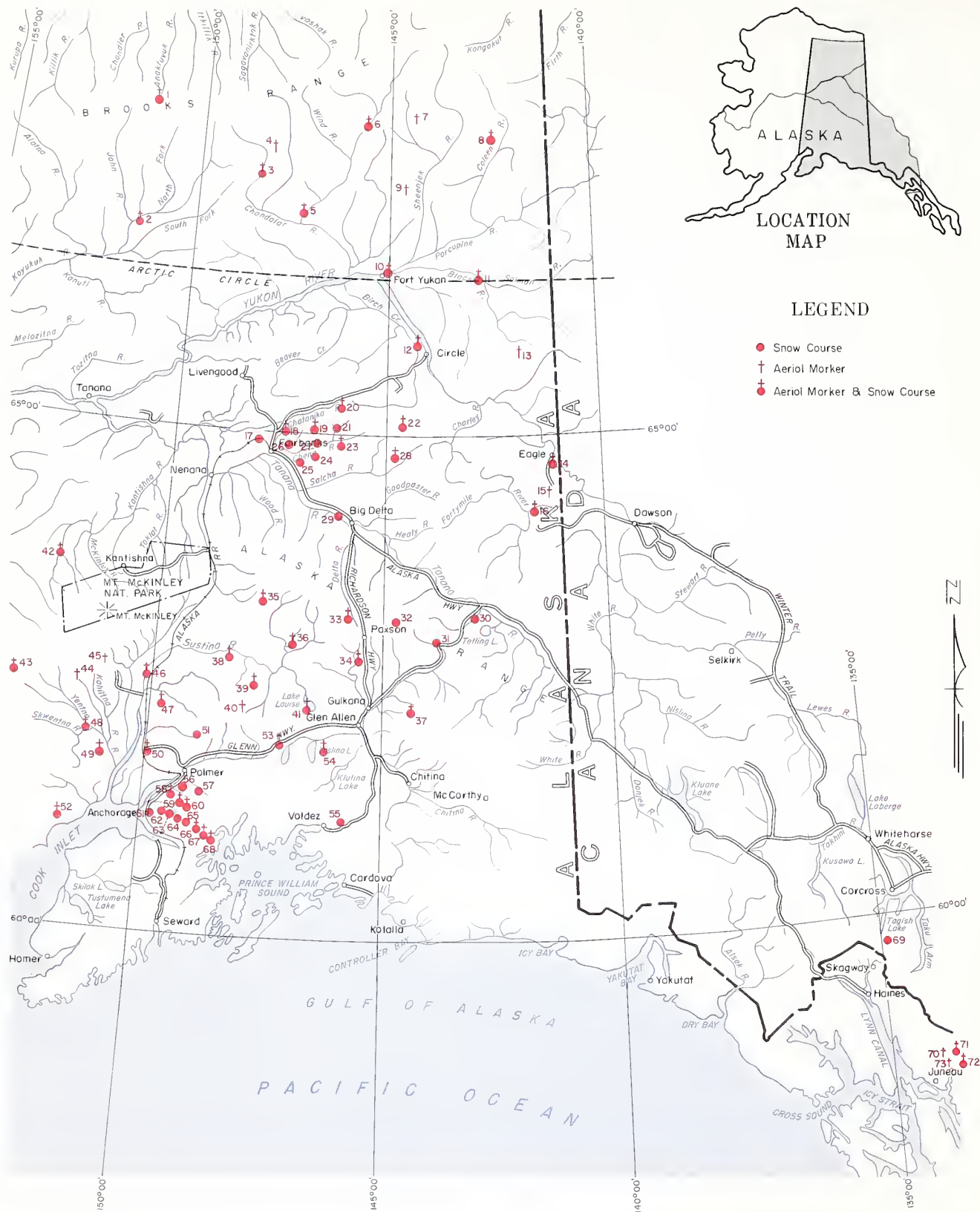


FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS
for
ALASKA

U. S. DEPARTMENT of AGRICULTURE , SOIL CONSERVATION SERVICE
and
ALASKA SOIL CONSERVATION DISTRICT

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, Alaska Highway Dept., Alaska Department of Fish and Game and University of Alaska, Greater Anchorage Area Borough, and others.

AS OF
MAR. 1, 1967



SNOW SURVEYS

for

ALASKA

Report Prepared by

T. G. FREEMAN, SNOW SURVEY SUPERVISOR

Issued by

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

BLAINE O. HALLIDAY, STATE CONSERVATIONIST
P. O. BOX F, PALMER, ALASKA

INDEX OF ALASKA SNOW COURSES

MAP No.	COURSE NAME	COURSE No.	ELEV.	MAP No.	COURSE NAME	COURSE No.	ELEV.
1	Anaktuvuk Pass	51TT1A	2100	38	Fog Lakes	48NN1A	2270
2	Bettles Field	51RR1A	640	39	Oshetna Lake	47NN1A	2950
3	Chandalar Lake	48SS1A	2040	40	Little Nelchina	47NN2a	4160
4	Squaw Lake	48SS2a	2150	41	Lake Louise	46NN2A	2400
5	Venetie	46SS1A	610	42	Lake Minchumina	52OO1A	730
6	Arctic Village	45TT1A	2300	43	Farewell Lake	53NN1A	1090
7	Koness Lake	44SS1a	1790	44	Chelatna Lake	51NN1a	1650
8	Coleen River	42SS1A	1100	45	Peters Hills	50NN1a	2010
9	Vundik Lake	43SS1a	950	46	Talkeetna	50NN2	350
10	Fort Yukon	44RR1A	425	47	Bald Mt. Lake	49NN1A	2150
11	Black River	42RR1A	650	48	Skwentna	51MM1A	158
12	Circle City	44QQ3A	600	49	Alexander Lake	50MM1A	200
13	Bull Lake	42QQ1a	950	50	Willow Airstrip	59MM2	150
14	Eagle Village	41PP1A	900	51	Independence Mine	49MM7	3300
15	Boundary	41PP3A	3300	52	McArthur	51LL1A	120
16	Chicken Airstrip	41PP2A	1650	53	Sheep Mountain	45MM1	2700
17	Yak Pasture	47PP1	540	54	St. Anne's Lake	46MM1A	1985
18	Cleary Summit	47QQ1A	2230	55	Worthington Glacier	45MM2	2400
19	Little Chena	46QQ2A	2200	56	Moraine	48MM1	2100
20	Mt. Ryan	46QQ1A	2950	57	Ptarmigan	48MM2	3000
21	Chena Hot Springs	46QQ3	1250	58	Marmot	48MM8A	2000
22	Big Windy	44QQ2A	3850	59	Goat	48MM7A	3200
23	Munson Ridge	46PP1A	3100	60	Grizzly	48MM4A	5000
24	French Creek	46PP2	2010	61	Arctic Valley #1	49MM1	500
25	Little Salcha	46PP3	1500	62	Arctic Valley #2	49MM2	1000
26	Glenn Creek	47PP2	925	63	Arctic Valley #3	49MM3	2030
27	Colorado Creek	46PP4	750	64	Arctic Valley #4	49MM4	2330
28	Caribou Mine	45PP2A	1115	65	Arctic Ski Bowl	49MM5	3000
29	Big Delta	45PP1	975	66	Bird Creek	49MM6A	2350
30	Tok Junction	43OO1	1650	67	Ship Creek	49MM7A	1750
31	Mentesta Pass	43NN1	2430	68	Indian Pass	49MM8A	2350
32	Mankomen Lake	44NN1	3050	69	Log Cabin (B.C.)	35KK1	2880
33	Fielding Lake	45OO1A	3000	70	Upper Long Lake	33JJ2a	1000
34	Haggard Creek	45NN1A	2540	71	Long Lake	33JJ1A	1075
35	Monahan Flat	47OO1A	2710	72	Speel River	33JJ3A	275
36	Clearwater Lake	46NN1A	3100	73	Crater Lake	33JJ4a	1750
37	Sanford River	44NN2a	2280				

MARCH 1967

Snow cover throughout the major portion of Alaska varies from slightly above to slightly below the normal for March 1. Most of the snow was received early in the season with January and February being relatively dry. The exception to this was in the mountains of Southeast Alaska where very heavy snowfalls were received during both of these months. The existing snowpack in this region is much greater than was measured last year at this time.

Lack of summer and fall precipitation in 1966 left most of the soils in interior Alaska in an extremely dry condition. It is expected that a considerable portion of the water from the melting snow cover will be absorbed into the soil and will not run into the river systems. Soils are especially dry on the Tanana, 40-Mile, Upper Yukon and Porcupine watersheds.

Sixteen additional snow courses or aerial snow markers were established during the past year. Measurements from these stations are reported for the first time in this issue of the Alaska Snow Survey Bulletin.

YUKON above Rampart

The Upper Yukon basin in general has a snow cover slightly above average for the short period of record. Considerably more snow than normal was measured at the courses near Circle City and Eagle Village. Snow densities are extremely low due to the cold temperatures which prevail during the winter months. The Chandalar Lake snow course measurements recorded an average depth of 21 inches, with a water equivalent of 2.7 inches and an average density of only 12.9%.

TANANA-CHENA Drainage

Snow courses on the Chena watershed measure slightly above average, but considerably less than last year at this time. The snow course located near Tok Junction has a water content above the six-year average and also greater than was measured last year. Snow cover near Fielding Lake, at the headwaters of the Delta River, is less than has been recorded in any of the previous five years.

MATANUSKA-SUSITNA-COPPER

Snow cover in the upper Matanuska drainage is somewhat above average, while the Susitna drainage is generally less than normal for March 1. Snow courses in the Copper River watershed have near average snow depth and water content.

KUSKOKWIM

Two new snow courses were established in the Kuskokwim drainage. These were located at Farewell Lake and Lake Minchumina. Measurements taken at each of these courses indicate snow water equivalents near five inches.

KOYUKUK

Two snow courses were established on the Koyukuk watershed during the summer of 1966. The course near Bettles had a snow depth of 37 inches, with 5.9 inches of water content. This is a relatively deep snowpack for interior Alaska for this year. Light snow cover was recorded near Anaktuvuk Pass.

COASTAL Drainage

Snow cover in the Coastal drainage near Anchorage is near the average for the short period of record. Heavy snowfall in the McArthur River region added nine inches of water equivalent to the snowpack during the past month.

SNETTISHAM Drainage

Measurements have been made for only the past three years in this region but indications are that snow cover varies greatly from year to year. Surveys made on March 1 show an accumulation of 130% of that measured on that date last year and 134% of the average of the previous two years.

ALASKA SNOW SURVEYS

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		Previous YEARS OF RECORD
					LAST YEAR	AVERAGE *	
YUKON drainage:							
Chandalar Lake	3	3/6/67	21	2.7	-	-	1
**Squaw Lake	4	3/6/67	20E	2.6E	-	-	0
Venetie	5	3/6/67	18	2.6	2.6	2.6	2
Arctic Village	6	3/7/67	16	2.3	2.8	2.8	2
**Kones Lake	7	3/7/67	19E	2.8E	-	-	0
**Coleen Riber	8	3/7/67	18E	2.9E	2.1	2.5	0
**Vundik Lake	9	3/7/67	19E	3.0E	-	-	0
Fort Yukon	10	3/7/67	21	3.1	2.5	3.0	2
Black River	11	3/7/67	23	3.8	3.0	3.2	2
Circle City	12	3/8/67	28	4.4	2.7	3.0	2
**Bull Lake	13	3/8/67	27E	4.3E	-	-	0
Eagle Village	14	3/8/67	26	5.0	5.0	3.9	2
**Boundary	15	3/8/67	31E	6.2E	-	-	0
Chicken Airstrip	16	3/8/67	22	3.8	3.5	3.4	2
Log Cabin (B.C.)	69	3/1/67	48	11.3	9.7	12.8	7
TANANA-CHENA drainage:							
Yak Pasture	17	3/6/67	22	4.6	5.1	3.8	6
Cleary Summit	18	3/1/67	24	4.6	6.7	4.9	6
Little Chena	19	No measurement			6.1	4.0	3
Mt. Ryan	20	No measurement			6.7	4.1	3
*** Chena Hot Springs	21	3/4/67	25	4.5	-	-	-
Big Windy	22	No measurement			2.6	1.2	3
Munson Ridge	23	3/4/67	38	8.5	15.3	9.0	3
French Creek	24	2/28/67	36	8.1	8.4	4.9	4
Little Salcha	25	2/28/67	30	6.4	10.2	5.4	4
Glenn Creek	26	No measurement			5.1	-	1
Colorado Creek	27	3/4/67	24	4.5	5.9	-	1
Caribou Mine	28	3/4/67	28	5.5	-	-	1
Big Delta	29	2/27/67	23	3.7	4.7	2.4	6
Tok Junction	30	2/28/67	26	4.2	3.2	3.2	6
Mentesta Pass	31	2/28/67	25	4.9	4.8	4.0	4
Fielding Lake	33	2/27/67	29	5.4	9.3	8.7	5
COPPER River Drainage:							
Mankomen Lake	32	3/1/67	23	4.6	-	-	0
Haggard Creek	34	2/27/67	26	4.2	5.6	3.8	2
**Sanford River	37	2/27/67	34E	6.3E	-	-	0
St. Anne's Lake	54	2/27/67	26	4.8	4.7	4.0	2
NATANUSKA-SUSITNA Drainage:							
Monahan Flat	35	2/28/67	25	5.1	6.4	6.0	2
Clearwater Lake	36	2/28/67	25	4.4	5.1	4.8	2
**Fog Lakes	38	2/28/67	12E	2.3E	3.4	3.2	2
Oshetna Lake	39	2/27/67	26	3.9	2.8	2.4	2
Lake Louise	41	2/27/67	24	4.4	3.8	4.7	2

** Aerial Markers

*** Snow Course Re located (*) Average for Period of Record

ALASKA SNOW SURVEYS

Previous

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		YEARS OF RECORD
					LAST YEAR	AVERAGE *	
MATANUSKA-SUSITNA Drainage (Cont'd)							
**Chelatna Lake	44	2/28/67	34E	7.8E	9.0	3.8	3
Talkeetna	46	2/28/67	29	5.6	-	-	0
Bald Mt. Lake	47	No measurement			4.2	4.8	3
Skwentna	48	2/28/67	35	7.2	-	-	0
Alexander Lake	49	2/28/67	34	7.5	10.9	11.0	3
Willow Airstrip	50	2/27/67	33	6.9	7.3	7.0	3
Independence Mine	51	3/1/67	52	13.1	9.1	12.2	2
Sheep Mountain	53	2/28/67	25	5.3	1.8	7.4	2
KUSKOKWIM Drainage:							
Lake Minchumina	42	3/5/67	28	5.2	-	-	0
Farewell Lake	43	3/5/67	23	4.7	-	-	0
KOYUKUK Drainage:							
Anaktuvuk Pass	1	3/5/67	16	2.7	-	-	0
Bettles Field	2	3/5/67	37	5.9	-	-	0
COASTAL Drainage:							
**McArthur	52	2/28/67	76E	18.2E	14.8	19.9	3
Worthington Glacier	55	2/28/67	45	12.6	13.4	11.0	2
Moraine	56	3/9/67	28	5.8	-	-	0
Ptarmigan	57	3/9/67	34	7.5	-	-	0
Marmot	58	3/9/67	46	16.	-	-	0
Goat	59	3/8/67	27	5.8	-	-	0
Grizzly	60	3/9/67	42	11.2	-	-	0
Arctic Valley #1	61	3/1/67	20	3.5	5.3	3.5	3
Arctic Valley #2	62	3/1/67	20	3.6	4.5	3.7	3
Arctic Valley #3	63	3/1/67	24	4.7	5.1	5.0	3
Arctic Valley #4	64	3/1/67	26	5.5	5.0	5.3	3
Arctic Ski Bowl	65	3/1/67	43	13.2	8.8	9.6	3
Bird Creek	66	3/1/67	40	11.8	-	-	0
Ship Creek	67	3/1/67	32	7.2	-	-	0
Indian Pass	68	3/1/67	52	14.4	-	-	0
SNETTISHAM Drainage:							
Upper Long Lake	70	3/1/67	155	49.3	35.0	32.	2
Long Lake	71	3/1/67	168	56.4	38.0	37.	2
Speel River	72	3/1/67	105	38.2	31.0	32.4	2
**Crater Lake	73	3/1/67	198E	68.0E	59.	56.5	2

(*) Average for Period of Record

** Aerial Markers

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83701
Montana	P. O. Box 855, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4001 Federal Building, Salt Lake City, Utah 84111
Washington	840 Bon Marche Bldg., Spokane, Washington 99206
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



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